

REMARKS

Claims 1-16 and 21-28 remain in this application. Claims 1, 4, and 5 have been amended to fix grammatical informalities; these amendments do not affect the scope of the claimed invention. Claim 29 has been added to more particularly point out and distinctly claim the subject matter that the Applicants regard as their invention. Support for new claim 29 can be found on page 14, lines 1-7. No new matter has been added. Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **“Version with markings to show changes made.”**

A. Grammatical informalities

Claims 1-16 were objected to because of grammatical informalities in claims 1, 4, and 5. These claims have been amended to overcome the objection.

B. Rejection under 35 U.S.C. 103(a) based on Brody

Claims 1-10, 21-22, and 26-28 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,726,404 to Brody.

Applicants respectfully submit that claims 1-10, 21-22, and 26-28 are not obvious over Brody. “When obviousness is based on a particular prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference.” *B. F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1582 (Fed. Cir. 1996). A reference that teaches away from the claimed invention undermines its value as prior art in an obviousness rejection. See generally *In re Spinnoble*, 405 F.2d 578, 587 (C.C.P.A. 1969); *In re Caldwell*, 319 F.2d 254, 256 (C.C.P.A. 1963). A reference teaches away “when a person of ordinary skill, upon reading the reference, could be discouraged from following the path set out in the reference, or would be led

in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Furthermore, to establish a prima facie case of obviousness, all the claim limitations must be taught or suggested by the Prior art. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1979); M.P.E.P. 2143.03.

In this case, Applicants respectfully submit that (1) there is no showing of a suggestion or motivation in Brody to modify its teachings to be within the scope of the claimed invention of the present application; (2) Brody teaches away from the claimed invention; and (3) Brody does not teach or suggest all the limitations of claims 1-10, 21-22, and 26-28.

As noted by the Examiner, Brody does not disclose a primary channel connected to a vacuum source and the first and second reservoirs coupled to the atmosphere. The examiner asserted that it “would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a switchable pressure source including a vacuum source coupled to the primary channel (P2) and a switchable pressure source coupled to atmosphere to first (P1) and second (P3) reservoirs in order to provide $P1 > P2$ to cause flow from the first reservoir to the ‘primary channel’ as taught by Brody.” Additionally, the examiner asserted that it “would have been obvious to switch the pressure source coupled to the second reservoir (P3) away from vent, thereby sealing it, in accordance with equation 2” and “it would have been obvious to provide additional chambers and channels in order to provide pre-processing, such as reagent combination, and post-processing, such as separation and/or further reaction, as was known in the art.”

Brody does not teach or suggest a system where all the fluid flow can be controlled by a vacuum source without the need for pressure regulators for each and every reservoir. It is

immaterial that, as alleged by the Examiner, Brody teaches a system that could, by undisclosed selections of the relative pressures P1, P2, and P3, be configured to be within the scope of the claimed invention. There is no showing of a suggestion or motivation in Brody to modify its teachings to be within the scope of the claimed invention of the present application.

Brody does not disclose, or suggest modifying its teachings, using the combination of a negative pressure source and sealed reservoirs that are ventable. Moreover, Brody emphasizes applying driving pressure throughout the disclosure and in all the claims. This emphasis on driving pressure is a teaching away from the combination of a vacuum (negative pressure) source and venting.

Moreover, even if Brody can be read to teach or suggest using a vacuum source and atmospheric vents, Brody does not teach or suggest in any way sealed reservoirs with vents that can be sealed and unsealed. In particular, Brody does not teach or suggest the use of sealed vents to inhibit fluid flow from a given reservoir. At most, Brody only teaches that reservoirs can have a first pressure and a second pressure. Brody does not teach that either pressure state is due to sealing of the given reservoir.

C. Rejection under 35 U.S.C. 103(a) based on Brody in view of Heller or Feldstein

Claims 11-12 and 23-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brody as applied to claims 1-10, 21-22, 26-28 above, and further in view of U.S. Patent 5,849,486 to Heller or Mark J. Feldstein, Joel P. Golden & Frances S. Liger, *Fluorescence Array Biosensor Part 1: Optics and Fluidics*, Micro-Total Analysis Systems 98, pp. 431-434 (1998). The Examiner noted that Brody does not disclose a waveguide specific binding sensor, and therefore supplemented Brody with the Heller or Feldstein waveguide specific binding sensor.

Neither Heller nor Feldstein make up for the deficiencies of Brody discussed above and, therefore, the hypothetical combination of Brody and Heller or Feldstein does not render obvious the subject matter of claims 11-12 and 23-25.

Moreover, it is well settled that obviousness cannot be established by combining the teachings of the prior art, absent some teaching, suggestion, or incentive supporting the combination. *In re Geiger*, 2 U.S.P.Q.2d 1276 (Fed. Cir. 1987); *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929 (Fed. Cir. 1984). “When the incentive to combine the teachings or the references is not readily apparent, it is the duty of the examiner to explain why combination of the reference teachings is proper. . . . Absent such reasons or incentives, the teachings of the references are not combinable. *Ex parte Skinner*, 2 U.S.P.Q.2d 1788, 1790 (B.P.A.I. 1987). “It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious.” *In re Fritch*, 972 F.2d 1260, 1266, 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992). “[O]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

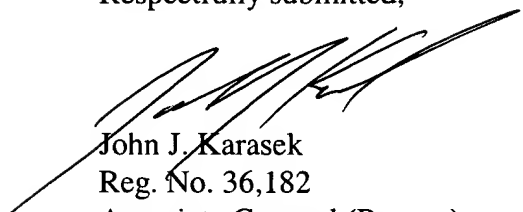
The Examiner did not cite any evidence of a motivation to use a waveguide specific binding sensor in the device of Brody, and there are no statements in Heller or Feldstein relevant to a motivation for using Brody’s switch.

In view of the foregoing, it is respectfully submitted that this application is ready for allowance. Kindly charge any additional fees due, or credit overpayment of fees, to Deposit Account No. 50-0281.

Application Serial No.: 09/917,649
Applicant: Mark J. Feldstein

Docket No.: N.C. 79,856

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'John J. Karasek', is written over the printed name and title.

John J. Karasek
Reg. No. 36,182
Associate Counsel (Patents)
Naval Research Laboratory
4555 Overlook Avenue, S.W.
Washington, D.C. 20375-5325
(202) 404-1552

Prepared by:
Rebecca L. Forman
Reg. No. 50,452
(202) 404-1554

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claim 1 has been amended as follows:

1. (Amended) A fluidics system, comprising:

a primary fluid channel comprising an input and an output;

an enclosed first reservoir connected to said primary fluid channel input and comprising a first adjustable vent;

an enclosed second reservoir connected to said primary fluid channel input and comprising a second adjustable vent;

a negative pressure connected to said primary fluid channel output;

wherein the fluidics system is configured to selectively draw at least one fluid from at least one of the first and second reservoirs into the primary fluid channel when the negative pressure source is activated and the respective reservoir is unsealed.

Claim 4 has been amended as follows:

4. (Amended) The fluidics system of claim 1, further comprising:

more than one secondary fluid channel[s] configured parallel and/or serial to each other.

Claim 5 has been amended as follows:

5. (Amended) The fluidics system of claim 4, further comprising:

more than one negative pressure source[s] downstream of said secondary fluid channels.

Claim 29 has been added as follows:

29. (New) The fluidics system of claim 1, wherein the primary fluid channel is configured to have minimal cross-sectional dimensions such that the selective fluid drawing is not a low Reynolds number fluid flow.